

Spaceborne Telemetry

X-Band 8-PSK Transmitter

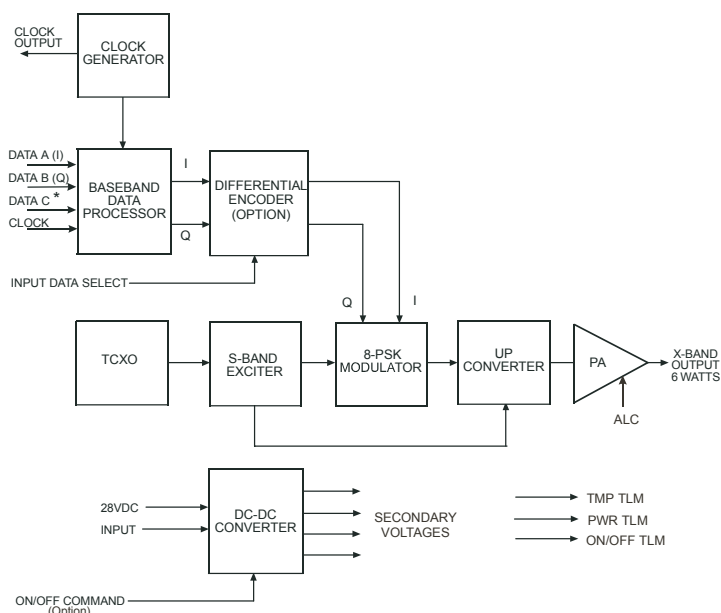
CTX-888



- High data rate transmitter for remote sensing satellite application
- X-band with option for ka
- 8 PSK or QPSK
- Data rates of 600 Mbps and higher
- 6 or 10 watt output power
- LVDS or ECL interface
- Radiation hardened
- Embedded encryption optional

L-3 Communications, Telemetry-West has a rich heritage of Satellite Telemetry Transmitter experience. High-reliability space communication equipment has been one of Telemetry-West's primary business thrusts since 1968 beginning with the transmitters supplied for the Apollo space program. The CTX-888, developed by Telemetry-West, represents the Next Generation of high rate X-band Transmitters.

The CTX-888 is a high-reliability 6 or 10-watt X-band Transmitter developed for earth imaging applications. 8-PSK modulation is standard at data rates over 600 Mbps (total I and Q). Selectable differential encoder, code conversion, input data selection, and serial /parallel ECL/LVDS interface options are also available. A high-fidelity GaAsFET PA section operates below compression for linear applications where spectrum conservation is critical. The transmitter includes circuitry to assure compliance with ITU, and NTIA emission standards.



* NOT USED FOR QPSK MODE

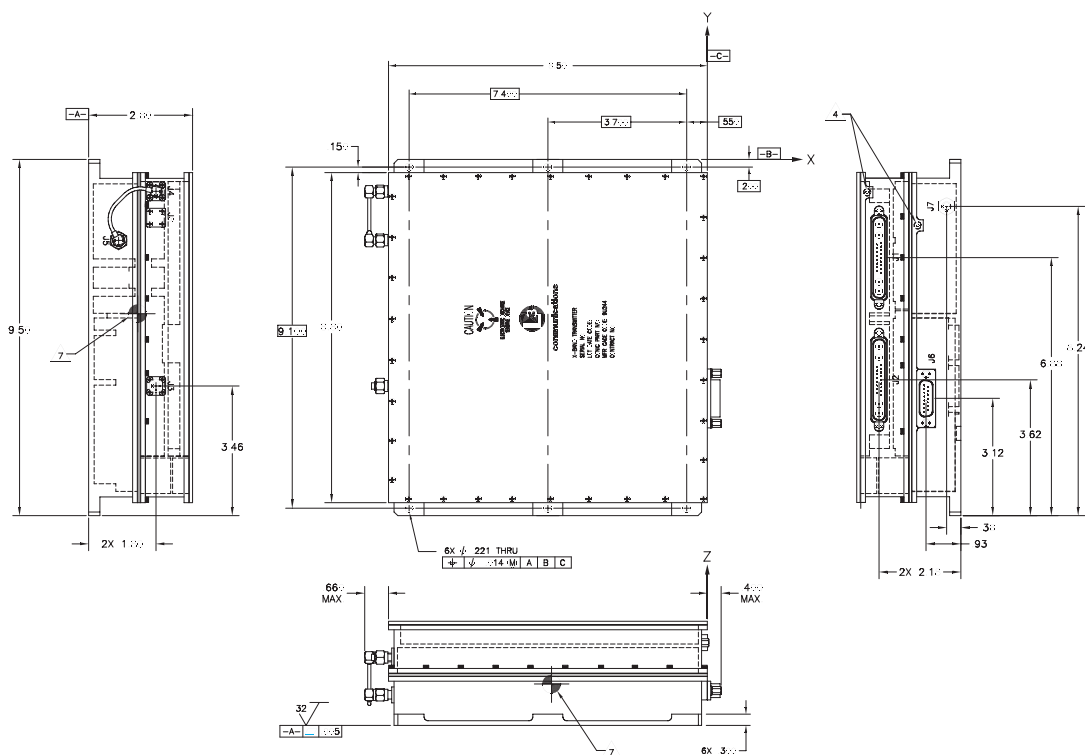
CTX-888 Block Diagram



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CTX-886 Mechanical Outline Drawing

CTX-888 Specifications

Output Frequency Range . . . 8.0 to 8.4 GHz
Frequency Stability
Short Term (1 second) . . . 1X10E-9 maximum
Temperature
(-29°C to +61°C) . . . ±4 ppm max.
Aging
First year . . . ±2 ppm maximum
Following years . . . ±1 ppm/year maximum
Output Power
Standard . . . 6 Watts minimum
Optional . . . 10 Watts minimum
Modulation
Standard High-Rate . . . 8-PSK
Modulation Imbalance
Phase . . . ±5.5°
Amplitude . . . 1.2 dB
Data Rate
Standard High-rate . . . 600 Mbps (combined ch)
804 Mbps (combined ch)
Input Interface
Standard Serial/Parallel . . 200 Msps/ch. maximum
(LVDS/ECL) . . . 268 Msps/ch. maximum
Input DC Voltage . . . 22-34 Vdc
Input DC Power . . . (see note)
6 W RF Output . . . 75 W nominal
10 W RF Output . . . 120 W nominal

Input to Chassis DC
Isolation . . . > 1 Megohm
Commands (Optional) . . . Primary Power On/OFF
Data Input Select
Telemetry . . . Power ON/OFF (w/Option)
Converter Secondary Voltage
Temperature
RF Output Power
Data Input Select (w/Option)

General

Dimensions . . . 9.1"L x 9.5"W x 2.8"H
Weight . . . 9.25 lbs. Nom., 10 lbs. Max.
Temperature
Operating . . . -24°C to +56°C
Radiation . . . 100K rad total dose (outside chassis)
Options . . . NRZ-L to M conversion
Differential Encoding
Multiple Data Source Selection

Note: Input power is dependant upon data rate and combination of baseband options.

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